AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-16 (Canceled).

17. (Currently Amended) A reaction substrate comprising:

a base having a substantially planar smooth surface and comprising a glass plate having a thickness of about 150 μm,

a flexible compartment layer of polydimethyl siloxane~~silicon rubber~~ with a thickness from 0.5 mm to 4 mm perforated by an arrangement of holes, wherein the flexible compartment layer is adapted to removably and automatically adhere to the surface of the glass plate without adhesive, such that the flexible compartment layer can be separated from the glass plate substantially free of damage and without loss of form, adhesion and flexibility, and wherein the holes combine with the glass plate to provide sample reservoirs with a sample volume from 1 nl to 10 μl when the flexible compartment layer is adhered to the glass plate, such that the surface of the glass plate acts as a floor for each of the sample reservoirs in which a reaction is conducted, and

a cover mountable by automatic adhesion on a side of the flexible compartment layer opposite of the glass plate, wherein the cover has penetration openings for supplying samples to the sample reservoirs or for removing samples from the sample reservoirs

wherein: (a) the reaction substrate is inert under conditions of the reaction conducted in the sample reservoirs, (b) the reaction substrate is in a form of a microtiter plate or a nanotiter plate, (c) the sample reservoirs are arranged in straight rows and columns in a 48 x 32 matrix format, (d) a mid-point distance between sample reservoirs is 2.25 mm, (e) a diameter of each sample reservoir 1.5 mm, and (fe) variations of positions of the sample reservoirs in a direction perpendicular to a base plane are less than 250 μm over an entire surface of the base.

Claims 18-26 (Canceled).

27. (Previously Presented) The reaction substrate of claim 17, wherein the flexible compartment layer further comprises channels and/or storage pots.

28. (Previously Presented) The reaction substrate of claim 17, wherein the flexible compartment layer further comprises fluid lines, electrodes and/or sensors.

Claims 29-30 (Canceled).

31. (Previously Presented) The reaction substrate of claim 17, wherein the variations are less than 150 μm.

32. (Previously Presented) The reaction substrate of claim 17, wherein the variations are less than 100 μm.

33. (Previously Presented) The reaction substrate of claim 17, adapted for:

identifying and characterizing synthetic or biological objects;

identifying and characterizing chemical compounds;

identifying and/or validating targets;

searching for biologically active substances and/or pharmaceutical substances;

identifying conductive structures;

genome analysis;

proteome analysis;

cleaning and concentrating substrates; or

evolutive optimizing of biologically relevant macromolecules.

34. (Previously Presented) The reaction substrate of claim 17, wherein the flexible compartment layer and the glass plate are adapted such that the flexible compartment layer peels away from the glass plate without damaging the flexible compartment layer or the glass plate.

35. (Previously Presented) The reaction substrate of claim 34, wherein the flexible compartment layer and the glass plate are adapted to resist damage such that they can be reused at least 50 times.

36. (Canceled).